

Remarks/Arguments

The Office Action mailed on March 29, 2007 has been reviewed and carefully considered.

Claims 1, 2, 5, 9, 11-17 and 21 have been amended. Claims 1-21 are now pending in this application. No new matter has been introduced by the amendments.

Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

Claim Objections

The Examiner has objected to claims 1, 5, 11-15, and 17 for various informalities. Applicants gratefully acknowledge the Examiner's suggestions regarding correction of these claims. These claims, as currently amended, should now overcome the Examiner's objections.

Applicants respectfully request the withdrawal of the Examiner's claim objections in light of the amendments included herein.

Rejections under 35 U.S.C. §102(e)

Claims 1-4, 6-7, 9-12 and 15-21 currently stand rejected under 35 U.S.C. §102(e) in view of United States Patent Application Publication No. 2004/0205158 (Hsu).

At the outset, applicants respectfully assert that Hsu teaches principles radically different from those presently claimed. The present principles are directed to permitting a user to discover any and all WLAN access points as the user moves about. This is accomplished by a mobile device listening for WLAN signals, and when a WLAN signal is discovered, requesting location information from the WLAN base station. The present principles also permit storing WLAN location information on the mobile device for future reference. The constant scanning for WLAN coverage would normally drain a mobile device battery very quickly; however, the present principles present additional, separate circuitry that permits a mobile device to passively monitor WLAN signals. The bulk of the WLAN circuitry is only powered after a WLAN signal is discovered.

Using the system and method taught by the present principles, as claimed, permits a user to build a map of WLAN coverage in areas that the user has visited. Such individualized

WLAN mapping permits a user to relocate to the most convenient nearby WLAN coverage when WLAN coverage is desired. Furthermore, the ability to locate and log any WLAN coverage area permits a user to use open and free WLAN coverage areas or WLANs of service providers besides the user's cellular service provider.

In sharp contrast, Hsu teaches that the availability of a WLAN is "advertised" by a cellular system (Hsu, paragraph 0045) and the storage of certain preferences related to searching for WLAN coverage. The advertising by the cellular system is executed in response to provisioning of a mobile device on the cellular system or upon receipt of a registration message from the mobile device at the cellular base station. The base station of Hsu then instructs the mobile device where the WLAN is located. Thus, the WLAN discovery of Hsu is active, with the constantly powered cellular circuitry requiring far more power to determine when WLAN coverage is available. Additionally, as the WLAN information is tied to the advertisements of the cellular system, any WLAN coverage areas that are not sponsored by, or aligned with, the cellular service provider will not be advertised and usable within the system taught by Hsu.

Furthermore, while the present principles are directed to enabling users to build a list of WLANs in areas that the user has visited, Hsu teaches that WLAN location information is accessed through the base station (Hsu, paragraph 0052). Thus, a user looking for a WLAN would only be able to access WLAN location information *after* requesting such information from the cellular network (Hsu, paragraph 0053). This prevents a user from referencing the location information outside of a cellular network or without contacting a cellular network.

Turning to specific claims, claim 1, as amended, recites "scanning, *by a wireless local area network scanner in a wireless device*, to detect the presence of a wireless local area network WLAN" and "detecting presence of said wireless local area network *by said wireless local area network scanner*" and "contacting a base station of said wireless local area network *by a wireless local area network baseband circuit in said wireless device*".

Applicants respectfully assert that Hsu makes no teaching, or even suggestion, of scanning and detecting a WLAN by a "wireless local area network scanner in a wireless device." The present principles clearly distinguish between the circuitry configured to detect a WLAN signal and that configured to communicate over the WLAN. FIG. 2 of the

present application is particularly instructive on this aspect. The WLAN scanner (214) is separate from the WLAN baseband circuitry (208). The WLAN scanner (214) operates to detect the presence of a WLAN signal separately from the WLAN baseband circuitry (specification, page 6, lines 22-29). The WLAN baseband circuitry (208) is selectively activated by a multiplexer upon detection of a WLAN signal (page 6, lines 28-32). Leaving the WLAN baseband circuitry powered down when attempting to detect a WLAN signal permits significant reductions in wireless device power consumption, resulting in increased wireless device battery life.

As stated above, Hsu refers to gathering information on available WLANs over a cellular network, it can be seen that no separate WLAN signal scanner is disclosed, or even suggested. Thus, since Hsu makes no reference to, or suggestion of, a WLAN scanner, Hsu cannot anticipate “scanning to detect presence of a wireless local area network WLAN *by a wireless local area network scanner in a wireless device*” and “detecting presence *by said wireless local area network scanner* of said wireless local area network” as recited in claim 1.

Regarding independent claim 9, applicants respectfully assert that Hsu fails to teach “receiving and logging said location, *on said wireless device*, of said base station of said wireless local area network.” No logging of discovered WLAN locations at the wireless device takes place in Hsu. Applicants respectfully traverse the Examiner’s reading of the logging features of Hsu. In particular, the Examiner has cited paragraphs 0076 and 0083 of Hsu as teaching the feature of “logging location of said base station for future reference” (Office Action of March 29, 2007, page 4, point 8). However, Hsu, paragraph 0076 merely states that “When no WLAN is detected, the MS 702 sends the search results to the cellular network 706.” Thus, the only logging taking place, according to Hsu, takes place when *no* WLAN is found.

Additionally, the recording of search results, or lack thereof, happens at the cellular network. This is contrary to the elements recited in claim 9 which recite that the wireless device is configured for “receiving and logging said location, *on said wireless device*...”

Furthermore, paragraph 0083 of Hsu states that “The ESSID preference may be stored as a system selection parameter in the Preference Database.” As explained in Hsu, paragraph 0038, “Extended Service Set Identifier (ESSID) may be used to identify all

Access Points (AP) in a WLAN operator network. Different operators will use different ESSIDs. Thus, the list of ESSIDs may correspond to a list of WLAN operators accessible by the MS.” From this explanation, it can be seen that ESSIDs are used to identify the *service provider* offering service over a particular WLAN. Additionally, ESSIDs for a particular service provider will be the same across different access points, preventing a mobile station from identifying an individual access point from the ESSID. The physical location of an access point can, therefore, not be determined from ESSID information gathered and logged by a wireless device using the principles taught by Hsu.

Regarding Hsu’s preference database on the mobile device, Hsu states that “[t]he preference database 56 is a memory device storing *system selection criteria*” (Hsu, paragraph 0027). The criteria stored in the preference database, on the mobile station, or wireless device, are used to select which of a plurality of available WLANs to connect to when presented with the opportunity. As the WLANs are already known at the time the preference database is accessed, any information in the preference database would be useless in determining the physical location of a WLAN.

In light of at least the foregoing clarifications, Hsu cannot anticipate, or even render obvious, “receiving and logging *said location, on said wireless device*, of said base station of said wireless local area network” as recited in claim 9.

Accordingly, for at least the reasons stated above, claims 1 and 9 are believed to be in condition for allowance. Furthermore, claim 2, which depends from independent claim 1, also includes features analogous to that of claim 9, and is novel, nonobvious and patentable over Hsu for at least the reasons stated for claims 1 and 9. Claims 3-4 and 6-7 ultimately depend from independent claim 1, while claims 10-12 and 15 depend from independent claim 9, and are therefore novel, nonobvious and patentably distinct for at least the same reasons as claims 1 and 9. Independent claim 16 is analogous to independent claim 1, and is therefore patentable over Hsu for at least the same reasons as claim 1. Claims 17-21 depend from independent claim 16, include all of the same features and limitations as claim 16, and are, therefore patentable for at least the same reasons. Thus, claims 3-4, 6-7, 10-12, 15 and 17-21 are believed to be in condition for allowance due at least to their dependencies from claims 1, 9 and 16, respectively.

Rejections under 35 U.S.C. §103(a)

Claim 5 currently stands rejected under §103(a) in view of Hsu and United States Patent Application Publication No. 2004/0264395 (Rao). Applicants respectfully request reconsideration of the Examiner's §103(a) rejection in light of the following comments.

At the outset, applicants respectfully assert that claim 5 depends from claim 1, and, therefore, includes all of the features and limitations of claim 1. As stated above, applicants assert that claim 1 is novel and patentable over Hsu, and thus, claim 5 is novel and patentable for the same reasons as claim 1.

However, the Examiner states that Rao teaches “comparing a media access control MAC address of said base station to a database of known locations of base stations of wireless local area networks and not requesting a location if the contacted said base station is already in said database.” Applicants respectfully traverse the Examiner's interpretation of the teachings of Rao. Rao teaches scanning for known network identifiers, discovering MAC addresses stored with found network identifiers, and storing the MAC address. As is known to the field of digital communications, MAC addresses are unique identifiers associated with each Ethernet-capable network device. However, MAC addresses are not reliant on, or even remotely related to, physical location. While the Examiner has recognized that Rao provides automatic configuration of a wireless device to connect to a discovered WLAN access point, claim 5 is directed to principles completely different from such a feature.

The present principles store the MAC address for use as a cross reference of the physical location stored on the wireless device. Thus, under claim 5, after receiving a MAC address, the wireless device uses the MAC address as an index, or lookup value, to determine if a location has already been requested for a particular access point. If the MAC address is found in the wireless device database, then the particular location of the access point having the MAC address is known to the wireless device. Such checks prevent the wireless device of claim 5 from continually and redundantly requesting the location of the same access points when the locations are already known. Thus, Rao cannot render obvious comparing the discovered MAC address to a database of known MAC address/location “and not requesting a location if the contacted said base station is

already in said database” as recited in claim 5. Applicants, therefore, respectfully request the withdrawal of the Examiners §103(a) rejection of claim 5.

Claims 8 and 13-14 currently stand rejected under 35 U.S.C. §103(a) in view of Hsu and United States Patent Application Publication No. 2003/0134650 (Sundar). Applicants respectfully request reconsideration of the Examiner’s §103(a) rejection in light of the above amendments, and the following comments.

As recognized by the Examiner, Hsu fails to teach, among other features, “detecting signature sequences from a wireless local area network” as recited in claim 8. The Examiner has asserted that Sundar teaches this feature. However, applicants respectfully assert that the “detecting signature sequences from a wireless local area network” recited in claim 8 is not anticipated or rendered obvious by the teachings of Sundar.

In particular, page 8, lines 15-23 of the present specification teaches that the WLAN energy detector detects not just RF energy, but “energy fluctuations that correspond to periodic beacons transmitted in the RF signal.” Thus, by scanning for a beacon indicating the presence of a WLAN, the WLAN energy detector may determine that a WLAN is present from the digital signature sequences of the WLAN, *without actually attempting to connect* to the WLAN. As is known to the wireless communication art, WLAN frequencies are part of the 2.4 GHz unlicensed spectrum, and are therefore particularly noisy, with beepers, wireless phones, and the like, using the same frequency band. The detection of the beacons defined in WLAN standards assists in filtering out any “false positives” that may occur by simply measuring the level of RF energy at a particular frequency.

Sundar uses a method that merely measures the RF energy level, and does not take into account any WLAN beacon in the initial detect. “The presence of a WLAN can be inferred by detecting the RF energy on the permitted...spectrum.” “After successful energy detection, the mobile station can detect if a valid WLAN is present.” Thus, Sundar only uses the level of RF energy, and not the *fluctuations* in RF energy creating the “signature sequences from a wireless local area network” as recited in claim 8. Thus, Sundar and Hsu, taken singly, or in any combination, cannot render all of the elements of claim 8 obvious, and are thus patentable over Hsu and Sundar. Furthermore, as stated by

the Examiner, claims 13-14 are analogous to claim 8. Thus, claims 13-14 are patentable for at least the same reasons as claim 8.

Conclusion

In view of the foregoing, applicants respectfully requests that the rejections of the claims set forth in the Office Action of March 29, 2007 be withdrawn, that pending claims 1-21 be allowed, and that the case proceed to early issuance of Letters Patent in due course.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicant's representatives Deposit Account No. 07-0832.

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